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(54)OPTICAL MULTIPLEXER

(57) Abstract:

PROBLEM TO BE SOLVED: To provide the optical multiplexer of inexpensive constitution which can block reflected return light of exciting light from returning to the exciting light source.

SOLUTION: Forward signal light L1 from the signal light source is transmitted through a 1st filter 13 and forward linearly polarized exciting light L2 from the exciting light source has its S-polarized component reflected by a 2nd filter and its P-polarized light component transmitted. The S-polarized component of the exciting light L2 reflected by the 2nd filter 23 is converted by a 1/4plate 14 into a circularly polarized light, which is reflected by the 1st filter 13. The reflected return light of the circulalay polarized light of the exiting light L2 from the optical fiber 16 is reflected by the 1st filter 13 and then converted by the 1/4-wavelength plate 14 into a P-poalrized

component, which is transmitted through the 2nd filter 23. Therefore, the return light never returns to the exciting light source by being reflected by the 2nd filter 23.

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